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Sybon
Product Brochure

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Salinity Refractometer

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SYBON

Salinity Refractometer

Opticon Series FG100sa



SYBON™



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Sybon Scientific Instruments
Opticon Series Salinity Refractometer FG100sa (ATC)

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SYBON SALINITY REFRACTOMETER

OPTICON SERIES FG100sa

(AUTOMATIC TEMPERATURE COMPENSATION)

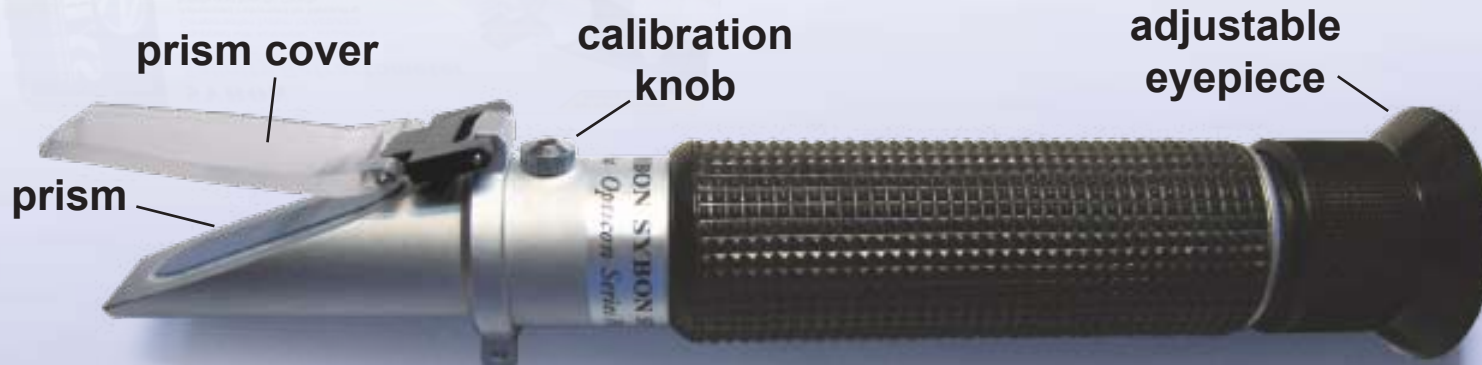
The Sybon Opticon Series salinity refractometer is a professional optical instrument designed for obtaining extremely accurate measurement of salinity and specific gravity for a wide variety of aqueous solutions such as in laboratories, seawater treatment, aquaculture, food processing, hydroponics monitoring, salt production, or any area where accurate measurement is essential. Its precisely engineered and well-balanced design is an integration of years of extensive research and meticulous experiment, which together with high quality craftsmanship, heavy duty construction and easy handling make measuring with the unit a pleasure!

Renowned for superior quality and excellent stability, the Sybon Opticon Series salinity refractometer is an invaluable instrument that gives you full confidence of use. Hold it, Use it, and Feel the Difference of this solid and truly reliable instrument of Sybon well favored in more than 60 countries throughout the world!

This unit is equipped with automatic temperature compensation with a special dual scale of salinity and specific gravity. Measuring only requires a couple drops of test solution. Precise fabrication with sturdy aluminum alloy construction.

Unit Specification:

- ◁ Model: Opticon Series FG100sa (ATC)
- ◁ Scale type: dual - salinity, specific gravity
- ◁ Scale range: 0.0 to 100.0ppt / 1.000 - 1.070S.G.
- ◁ Minimum scale: 1ppt / 0.001 S.G.
- ◁ Size and weight: 30 x 30 x 200mm, 260 grams
- ◁ Temperature range: automatic temperature compensation (ATC: 10 - 30°C)



P/N: sr-41

Figure 1



Sybon Salinity Refractometer

Opticon Series FG100sa

*Sybon Salinity Refractometer
Opticon Series FG100sa (ATC) is Carefully
Designed with a Full Range of
Advantages and Features.*



Figure 2

How Sybon Refractometer Works?

Refractometers work on the principle that light waves travel at different velocities in different media, and a light ray is bent at the interface between two adjoining media of different densities or refractive index. Refractometers are precision measuring instruments which put this phenomenon of light refraction into practical use.

For instance, when a straw is placed in a slant partially in a glass of water, the straw appears to bend at the water's surface. If the straw is then placed in a glass of brine or dissolved sugar, the straw will appear even more bent. (see illustrations).

Note that $\theta_{c2} > \theta_{p2}$, $\theta_{p1} = \theta_{c1}$

Straw Appears to be Bent when Viewed from Top

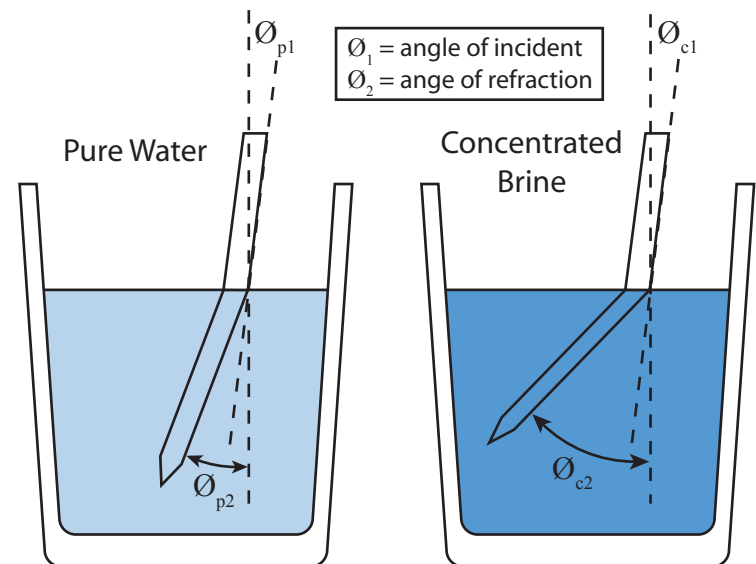


Figure 3

Sybon Salinity Refractometer Refractive System

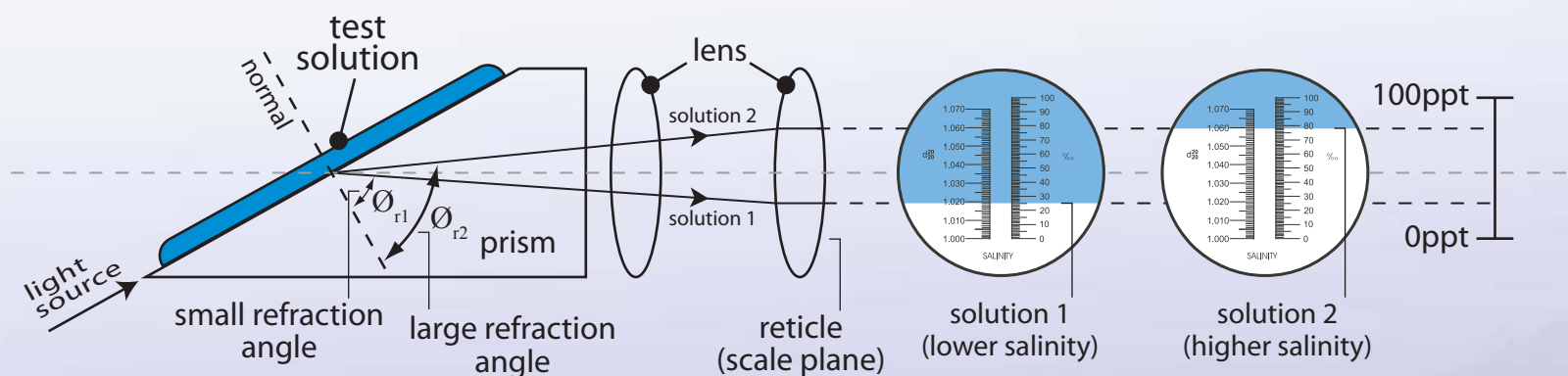


Figure 4

Sybon Scientific Instruments

Opticon Series Salinity Refractometer *FG100sa* (ATC)

User Manual



Items included in the box: FG100sa salinity refractometer, a small bottle of ultrapure water, a dropper, a calibration key, a piece of soft flannel and a user manual

Model: Opticon Series FG100sa (ATC)

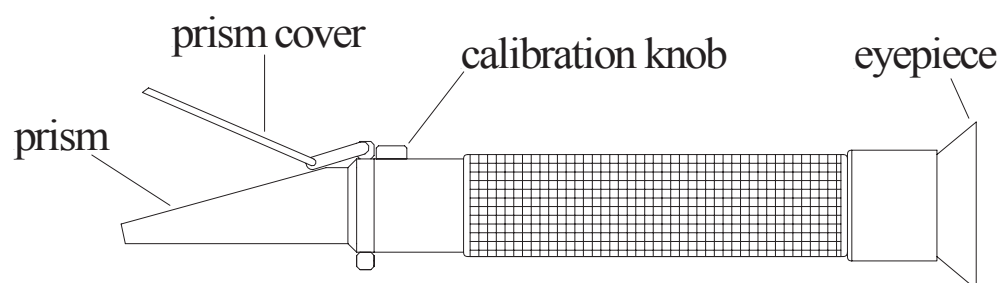
Scale range: 0 – 100ppt / 1.000 – 1.070 S.G.

Minimum scale: 1ppt / 0.001 S.G.

Accuracy: +/-1ppt

Size and weight: 30 x 30 x 200mm, 260g

Temperature range: automatic temperature compensation (ATC: 10 – 30C)



INSTRUCTION FOR USE

1. All Sybon's Opticon Series FG100sa salinity refractometers are fully calibrated in factory for the highest precision. No immediate recalibration is needed upon the first use.
2. To start, lift the transparent plastic cover at the pointed end of the refractometer. Then hold the refractometer in a way that the prism stays in a leveled position. Place on the prism a few drops of the saline medium desired to be measured. Then lower the transparent plastic cover back onto the prism. Make sure that the saline medium fully seeps across the entire surface of the prism without any noticeable air pockets entrapped under the cover.
3. Wait for about 30 seconds in order that the temperature of the saline medium blends into the ambient temperature. Then point the refractometer towards a bright light source (e.g., sun, fluorescent light, incandescent light, ...) and look into the black eyepiece at the other end of the refractometer.
4. There should be a clear and sharp image of a scale with salinity reading on the right side and specific gravity reading on the left. Turn the eyepiece to focus for clear and sharp image.
5. On the background, there should be an upper blue half area sharply distinguished from a lower white half area. The demarcation line between the two halves shows the reading of salinity and specific gravity of the saline medium.
6. FG100sa (ATC) is equipped with automatic temperature compensation function. It gives accurate readings at any temperature from 10 to 30 Celsius degrees without the need of further adjustment or chart reading.
7. Rinse the prism with clean freshwater after each use. Gently wipe the prism dry with the flannel provided or soft fabric.
8. In every couple months, however, FG100sa should be recalibrated. To do so, simply repeat the steps described above with the small bottle of ultrapure water provided. Remove the little black cover of the calibration knob which is located right behind the prism cover. With the small calibration key, turn the calibration knob until the demarcation border falls sharply between the upper blue area and the lower white area on the scale at a salinity of 0ppt and specific gravity of 1.000. (Note: For precision, it is very important to do the recalibration steps at an ambient temperature of 20 Celsius degree!)
9. The refractometer should be handled with care. It may be damaged if subjected to shock or strong vibration. Avoid touching the lens by hand or any other hard or sharp objects. Store the refractometer in dry, cool and dark place after use.
10. Sybon's salinity refractometer FG100sa (ATC) comes with a one year warranty. Ask your dealer for further details.
11. For more details or any enquires, please visit our website at www.sybontech.com

